

Date: Tuesday, 30/09/2008 11:14:18 AM
User: Julie Lecocq

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services	Drawing Name : SADDLE FITTING, FWD (OUTBOARD/INBOARD)
Job Number : 42359	
Estimate Number : 10530	
P.O. Number :	Part Number : D2571
This Issue : 30/09/2008 S.O. No. :	Drawing Number : D2571 REV E
Prsht Rev. : NC	Project Number : N/A
First Issue : 11 Type : MACHINED PARTS	Drawing Revision : E
Previous Run : 41703	Material :
Written By :	Due Date : 17/10/2008 Qty: 18 Um: Each
Checked & Approved By : <u>JD 08.9.30</u>	
Comment : Est: 1 02.10.02 Re-format; Change to Dwg Rev. D & incorporated D2572KJ	

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	D6101007	Saddle Billet
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Comment: Qty.: 1.0000 Each(s)/Unit Total : 16.0000 Each(s)
7075-T7351 8.25X7.75X2.5
Make from D6101-007 billet for D2571
Ensure that grain is along 7.75" length
Batch No: B41960

ML 08/10/22

16

2.0	HAAS1	HAAS CNC VERTICAL MACHINING #1
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Comment: HAAS CNC VERTICAL MACHINING #1
Program Batch No. 42359 Double check by: BA

Pd

- 1-Machine Step No 1 per Folio FA051 and inspect per attached Dimension Sheets
- 2-Machine Step No 2 per Folio FA051 and inspect per attached Dimension Sheets
- 3-Machine Step No 3 per Folio FA051 and inspect per attached Dimension Sheets
- 4-Deburr and remove all machining marks.
- 5-Tumble to remove sharp edges.

ML/J.L 08/10/28

3.0	MILLING CONV.	CONVENTIONAL MILLING MACHINE
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Comment: CONVENTIONAL MILLING MACHINE
Machine keyway as per dwg D2571 & D2572

JL 08/10/28

4.0	QC2	INSPECT PARTS AS THEY COME OFF MACHINE
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Comment: INSPECT PARTS AS THEY COME OFF MACHINE

JL 08/10/28

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D2571 PAR #: N/A Fault Category: Prod - Mach NCR: Yes No DQA: H Date: 08.11.04
 Resolution: Acceptable Disposition: Use as is QA: N/C Closed: H Date: 08/11/11

NCR: <u>42359</u>		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
08/10/23	# 20	one sample has dim .250" measuring 0.220". (Flange around X-tube bore.) RC employee notices that the insert tool had two different Rms. inserts on it 1/8" & 1/32" (same as B42360 D2572)	CP 08.10.23 per 951 042	Acceptable. REF DS EMAIL.	me 08/11/04	S CP 08/10/23	CP 08.10.23 per 951 042	S 08/10/23
								S 08/10/23

NOTE: Date & initial all entries

Date: Tuesday, 30/09/2008 11:14:18 AM
User: Julie Lecocq

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SADDLE FITTING, FWD (OUTBOARD/INBOARD)

Job Number: 42359

Part Number: D2571

Job Number:



Seq. #: Machine Or Operation: Description :

5.0 QC8 SECOND CHECK



Comment: SECOND CHECK

SB 08/10/28

6.0 HAND FINISHING1 HAND FINISHING RESOURCE #1



(17X)

Comment: HAND FINISHING RESOURCE #1

Acid etch and Alodine as per QSI 005 4.1

M-J 08/10/28

7.0 POWDER COATING POWDER COATING



(17X)

Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3

START TIME:

OVEN TEMPERATURE:

FINISH TIME:

10:15
320 OF
10:45

M-J 08/10/30

8.0 QC3 INSPECT POWDER COAT/CHEMICAL CONVERSION



(17)

Comment: INSPECT POWDER COAT

Fa 08/10/30

9.0 PACKAGING 1 PACKAGING RESOURCE #1



(17X)

Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: 433

8/10/30

SD

10.0 QC21 FINAL INSPECTION/W/O RELEASE



08/11/03

Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



MF 08-10-30

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order: 42359	
Description: Saddle, Fwd Outboard		Part Number: D2571	
Inspection Dwg: D2571 Rev. E		Page 1 of 1	

Inspect dimensions highlighted on inspection sheet drawing D2571 Rev. E and record below:

				Recorded Actual Dimensions					
Dim	Min	Max	Go/No Go Gauge	1	2	3	4	By	Date
A	0.438	0.443		.440	.440	.440	.440		
B	1.745	1.755		1.750	1.750	1.750	1.750		
C	3.495	3.505		3.500	3.500	3.500	3.500		
D	1.745	1.755		1.750	1.750	1.750	1.750		
E	7.990	8.010		8.001	8.001	8.001	8.001		
F	0.490	0.510		.505	.501	.500	.502		
G	0.257	0.262		.258	.258	.258	.259		
H	0.375	0.380		.377	.377	.377	.377		
I	0.490	0.510		.500	.501	.499	.501		
J	1.174	1.184		1.179	1.179	1.179	1.179		
K	0.558	0.578		.566	.566	.565	.567		
L	1.174	1.184		1.179	1.179	1.179	1.179		
M	1.490	1.500		1.495	1.495	1.495	1.495		
N	2.495	2.505		2.500	2.500	2.500	2.500		
O	3.869	3.879		3.874	3.874	3.874	3.874		
P	0.115	0.135		.123	.124	.127	.130		
Q	0.115	0.135		.135	.135	.135	.135		
R	0.240	0.260		.252	.253	.252	.252		
S	0.115	0.135		.127	.129	.125	.127		
T	0.178	0.198		.188	.188	.188	.188		
U	2.940	2.980		2.960	2.960	2.960	2.960		
V	0.230	0.250		.240	.241	.239	.240		
W	0.115	0.135		.123	.123	.121	.125		
X	0.308	0.313		.311	.312	.311	.312		
Y	0.760	0.765		.760	.761	.760	.760		
Z	0.352	0.372		.365	.364	.365	.370		
AA	0.470	0.530		.500	.500	.500	.500		
AB	0.615	0.635		.626	.625	.624	.635		
AC	0.053	0.073		.063	.063	.063	.063		
AD	0.240	0.260		.224	.251	.244	.250		
AE	1.375	1.395		1.389	1.387	1.392	1.392		
AF	0.115	0.135		.135	.135	.135	.130		
AG	0.240	0.280		.260	.260	.260	.260		
AH	0.240	0.260		.251	.252	.251	.250		
AI	2.000	2.020		2.002	2.002	2.006	2.005		
AJ	0.023	0.043		.033	.033	.033	.033		
Accept/Reject									

Measured by: <i>gml</i> / <i>JL</i>
Date: 08/10/25 / 08/10/23

Audited by: <i>SP</i>
Date: 08/10/25

Rev	Date	Change	Revised by	Approved
A		New Issue	RF	
B	02.09.24	Re-format; Added Rev. D	KJ	
C	02.10.11	Re-format; Added DT8682, DT8683, DT8684	KJ	
D	05.05.05	Added dimension AI	KJ/RF	
E	05.12.05	Added dimension AJ	KJ/JLM	<i>gml</i>

DART AEROSPACE LTD		Work Order: 42359
Description: Saddle, Fwd Outboard		Part Number: D2571
Inspection Dwg: D2571 Rev. E		Page 1 of 1

Inspect dimensions highlighted on inspection sheet drawing D2571 Rev. E and record below:

				Recorded Actual Dimensions					
Dim	Min	Max	Go/No Go Gauge	15	26	37	48	By	Date
A	0.438	0.443		.440	.440	.440	.440		
B	1.745	1.755		1.750	1.750	1.750	1.750		
C	3.495	3.505		3.500	3.500	3.500	3.500		
D	1.745	1.755		1.750	1.750	1.750	1.750		
E	7.990	8.010		8.000	8.000	8.000	8.000		
F	0.490	0.510		.502	.506	.504	.506		
G	0.257	0.262		.260	.259	.260	.260		
H	0.375	0.380		.377	.377	.377	.377		
I	0.490	0.510		.500	.500	.500	.500		
J	1.174	1.184		1.179	1.179	1.179	1.179		
K	0.558	0.578		.566	.566	.569	.570		
L	1.174	1.184		1.179	1.179	1.179	1.179		
M	1.490	1.500		1.495	1.495	1.495	1.494		
N	2.495	2.505		2.500	2.500	2.499	2.499		
O	3.869	3.879		3.872	3.873	3.872	3.872		
P	0.115	0.135		.129	.129	.129	.130		
Q	0.115	0.135		.135	.135	.135	.135		
R	0.240	0.260		.253	.253	.253	.252		
S	0.115	0.135		.133	.131	.133	.129		
T	0.178	0.198		.188	.188	.188	.188		
U	2.940	2.980		2.960	2.960	2.960	2.960		
V	0.230	0.250		.238	.240	.240	.240		
W	0.115	0.135		.127	.127	.127	.128		
X	0.308	0.313		.312	.311	.311	.311		
Y	0.760	0.765		.760	.760	.760	.760		
Z	0.352	0.372		.365	.367	.367	.367		
AA	0.470	0.530		.500	.500	.500	.500		
AB	0.615	0.635		.634	.635	.635	.635		
AC	0.053	0.073		.063	.063	.063	.063		
AD	0.240	0.260		.246	.252	.255	.250		
AE	1.375	1.395		1.391	1.391	1.390	1.390		
AF	0.115	0.135		.130	.130	.130	.130		
AG	0.240	0.280		.250	.260	.250	.250		
AH	0.240	0.260		.250	.250	.250	.251		
AI	2.000	2.020		2.004	2.000	2.000	2.000		
AJ	0.023	0.043		.033	.033	.033	.033		
Accept/Reject									

Measured by: <i>mf</i>
Date: 08/10/26

Audited by: <i>sf</i>
Date: 08/10/28

Rev	Date	Change	Revised by	Approved
A		New Issue	RF	
B	02.09.24	Re-format; Added Rev. D	KJ	
C	02.10.11	Re-format; Added DT8682, DT8683, DT8684	KJ	
D	05.05.05	Added dimension AI	KJ/RF	
E	05.12.05	Added dimension AJ	KJ/JLM	<i>mf</i>

DART AEROSPACE LTD	Work Order: 42359
Description: Saddle, Fwd Outboard	Part Number: D2571
Inspection Dwg: D2571 Rev. E	Page 1 of 1

Inspect dimensions highlighted on inspection sheet drawing D2571 Rev. E and record below:

				Recorded Actual Dimensions					
Dim	Min	Max	Go/No Go Gauge	1/4	2/10	3/11	4/12	By	Date
A	0.438	0.443		.440	.440	.440	.440		
B	1.745	1.755		1.750	1.750	1.750	1.750		
C	3.495	3.505		3.500	3.500	3.500	3.500		
D	1.745	1.755		1.750	1.750	1.750	1.750		
E	7.990	8.010		8.002	8.001	8.000	8.000		
F	0.490	0.510		.502	.504	.507	.502		
G	0.257	0.262		.260	.260	.259	.260		
H	0.375	0.380		.377	.377	.377	.377		
I	0.490	0.510		.499	.500	.500	.499		
J	1.174	1.184		1.179	1.178	1.178	1.179		
K	0.558	0.578		.566	.566	.568	.567		
L	1.174	1.184		1.179	1.177	1.178	1.179		
M	1.490	1.500		1.495	1.493	1.495	1.494		
N	2.495	2.505		2.500	2.499	2.499	2.500		
O	3.869	3.879		3.872	3.874	3.871	3.872		
P	0.115	0.135		.131	.132	.130	.130		
Q	0.115	0.135		.135	.135	.135	.135		
R	0.240	0.260		.253	.253	.253	.253		
S	0.115	0.135		.131	.131	.130	.130		
T	0.178	0.198		.188	.188	.188	.188		
U	2.940	2.980		2.960	2.960	2.959	2.960		
V	0.230	0.250		.241	.242	.241	.240		
W	0.115	0.135		.127	.129	.127	.126		
X	0.308	0.313		.311	.310	.310	.310		
Y	0.760	0.765		.760	.760	.760	.760		
Z	0.352	0.372		.369	.369	.364	.366		
AA	0.470	0.530		.500	.500	.500	.500		
AB	0.615	0.635		.635	.635	.635	.635		
AC	0.053	0.073		.063	.063	.063	.063		
AD	0.240	0.260		.249	.250	.250	.250		
AE	1.375	1.395		1.391	1.390	1.387	1.392		
AF	0.115	0.135		.130	.130	.130	.130		
AG	0.240	0.280		.250	.256	.260	.255		
AH	0.240	0.260		.250	.250	.251	.251		
AI	2.000	2.020		2.004	2.002	2.000	2.005		
AJ	0.023	0.043		.033	.033	.033	.033		
Accept/Reject									

Measured by: <i>cmf</i>
Date: 08/10/26

Audited by: <i>JB</i>
Date: 08/10/26

Rev	Date	Change	Revised by	Approved
A		New Issue	RF	
B	02.09.24	Re-format; Added Rev. D	KJ	
C	02.10.11	Re-format; Added DT8682, DT8683, DT8684	KJ	
D	05.05.05	Added dimension AI	KJ/RF	
E	05.12.05	Added dimension AJ	KJ/JLM	<i>[Signature]</i>

DART AEROSPACE LTD		Work Order: 42359
Description: Saddle, Fwd Outboard		Part Number: D2571
Inspection Dwg: D2571 Rev. E		Page 1 of 1

Inspect dimensions highlighted on inspection sheet drawing D2571 Rev. E and record below:

				Recorded Actual Dimensions					
Dim	Min	Max	Go/No Go Gauge	#13	#14	#15	#16	By	Date
A	0.438	0.443		.440	.440	.440	.440		
B	1.745	1.755		1.750	1.750	1.750	1.750		
C	3.495	3.505		3.500	3.500	3.500	3.500		
D	1.745	1.755		1.750	1.750	1.750	1.750		
E	7.990	8.010		8.001	8.002	8.002	8.002		
F	0.490	0.510		.502	.502	.502	.502		
G	0.257	0.262		.260	.260	.260	.260		
H	0.375	0.380		.377	.377	.377	.377		
I	0.490	0.510		.497	.500	.501	.501		
J	1.174	1.184		1.179	1.179	1.178	1.178		
K	0.558	0.578		.563	.564	.567	.567		
L	1.174	1.184		1.179	1.178	1.178	1.178		
M	1.490	1.500		1.495	1.494	1.493	1.495		
N	2.495	2.505		2.500	2.500	2.500	2.499		
O	3.869	3.879		3.871	3.872	3.873	3.873		
P	0.115	0.135		.130	.131	.131	.131		
Q	0.115	0.135		.135	.135	.135	.135		
R	0.240	0.260		.253	.253	.253	.254		
S	0.115	0.135		.130	.132	.133	.133		
T	0.178	0.198		.188	.188	.188	.188		
U	2.940	2.980		2.960	2.957	2.958	2.958		
V	0.230	0.250		.241	.241	.242	.241		
W	0.115	0.135		.128	.128	.128	.127		
X	0.308	0.313		.309	.309	.309	.310		
Y	0.760	0.765		.760	.760	.760	.760		
Z	0.352	0.372		.368	.365	.368	.368		
AA	0.470	0.530		.500	.500	.500	.500		
AB	0.615	0.635		.635	.635	.635	.635		
AC	0.053	0.073		.063	.063	.063	.063		
AD	0.240	0.260		.249	.250	.253	.251		
AE	1.375	1.395		1.390	1.390	1.390	1.390		
AF	0.115	0.135		.132	.129	.130	.130		
AG	0.240	0.280		.256	.252	.255	.251		
AH	0.240	0.260		.251	.251	.251	.251		
AI	2.000	2.020		2.003	2.004	2.002	2.003		
AJ	0.023	0.043		.033	.033	.033	.033		
Accept/Reject									

Measured by:	<i>mf</i>
Date:	08/10/27

Audited by:	<i>86</i>
Date:	08/10/27

Rev	Date	Change	Revised by	Approved
A		New Issue	RF	
B	02.09.24	Re-format; Added Rev. D	KJ	
C	02.10.11	Re-format; Added DT8682, DT8683, DT8684	KJ	
D	05.05.05	Added dimension AI	KJ/RF	
E	05.12.05	Added dimension AJ	KJ/JLM	<i>mf</i>

42359

DART AEROSPACE LTD	Work Order: 42359
Description: Saddle, Fwd Outboard	Part Number: D2571
Inspection Dwg: D2571 Rev. E	Page 1 of 1

Inspect dimensions highlighted on inspection sheet drawing D2571 Rev. E and record below:

				Recorded Actual Dimensions				By	Date
Dim	Min	Max	Go/No Go Gauge	1	2	3	4		
A	0.438	0.443		.440					
B	1.745	1.755		1.750					
C	3.495	3.505		3.500					
D	1.745	1.755		1.750					
E	7.990	8.010		8.001					
F	0.490	0.510		.502					
G	0.257	0.262		.260					
H	0.375	0.380		.377					
I	0.490	0.510		.499					
J	1.174	1.184		1.179					
K	0.558	0.578		.566					
L	1.174	1.184		1.179					
M	1.490	1.500		1.494					
N	2.495	2.505		2.500					
O	3.869	3.879		3.872					
P	0.115	0.135		.131					
Q	0.115	0.135		.135					
R	0.240	0.260		.254					
S	0.115	0.135		.132					
T	0.178	0.198		.188					
U	2.940	2.980		2.957					
V	0.230	0.250		.240					
W	0.115	0.135		.128					
X	0.308	0.313		.309					
Y	0.760	0.765		.760					
Z	0.352	0.372		.365					
AA	0.470	0.530		.500					
AB	0.615	0.635		.627					
AC	0.053	0.073		.063					
AD	0.240	0.260		.257					
AE	1.375	1.395		1.390					
AF	0.115	0.135		.134					
AG	0.240	0.280		.260					
AH	0.240	0.260		.250					
AI	2.000	2.020		2.004					
AJ	0.023	0.043		.033					
Accept/Reject									

Measured by: <i>mr</i>
Date: 08/10/27

Audited by: <i>RF</i>
Date: 08/10/28

Rev	Date	Change	Revised by	Approved
A		New Issue	RF	
B	02.09.24	Re-format; Added Rev. D	KJ	
C	02.10.11	Re-format; Added DT8682, DT8683, DT8684	KJ	
D	05.05.05	Added dimension AI	KJ/RF	
E	05.12.05	Added dimension AJ	KJ/JLM	

RELEASED

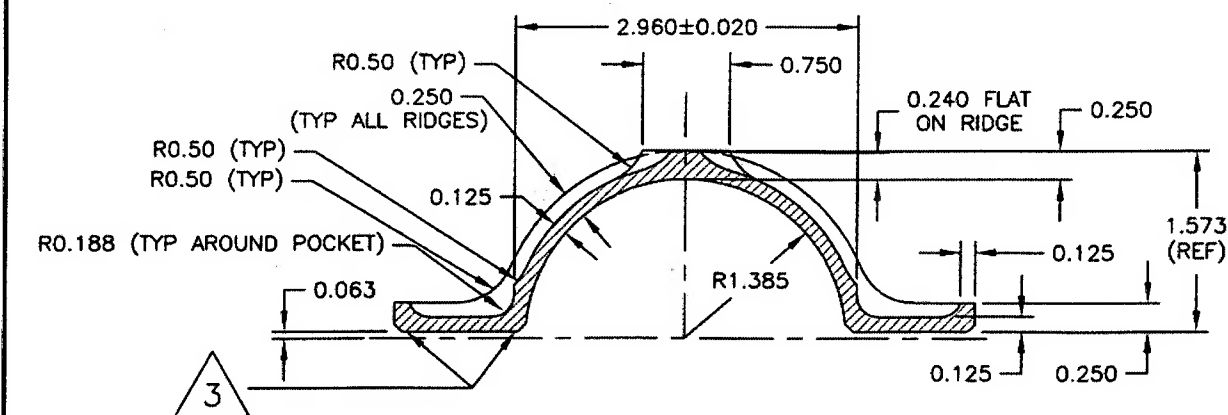
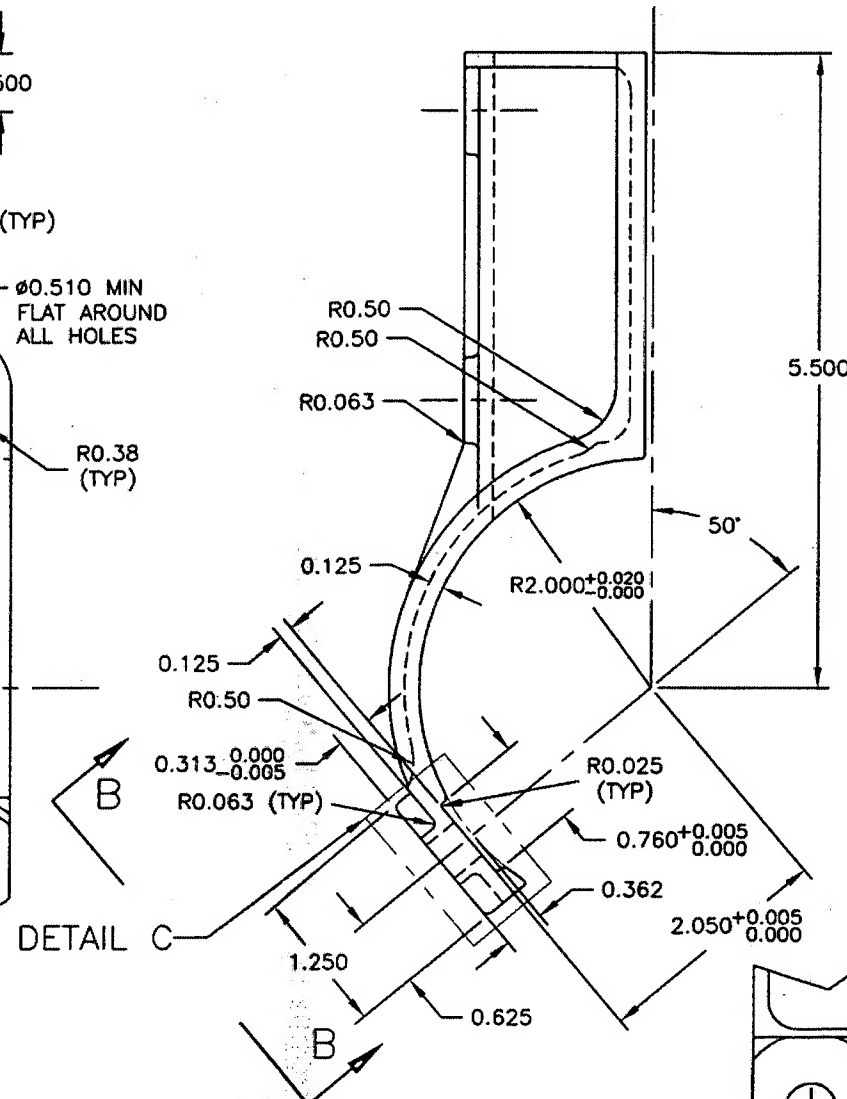
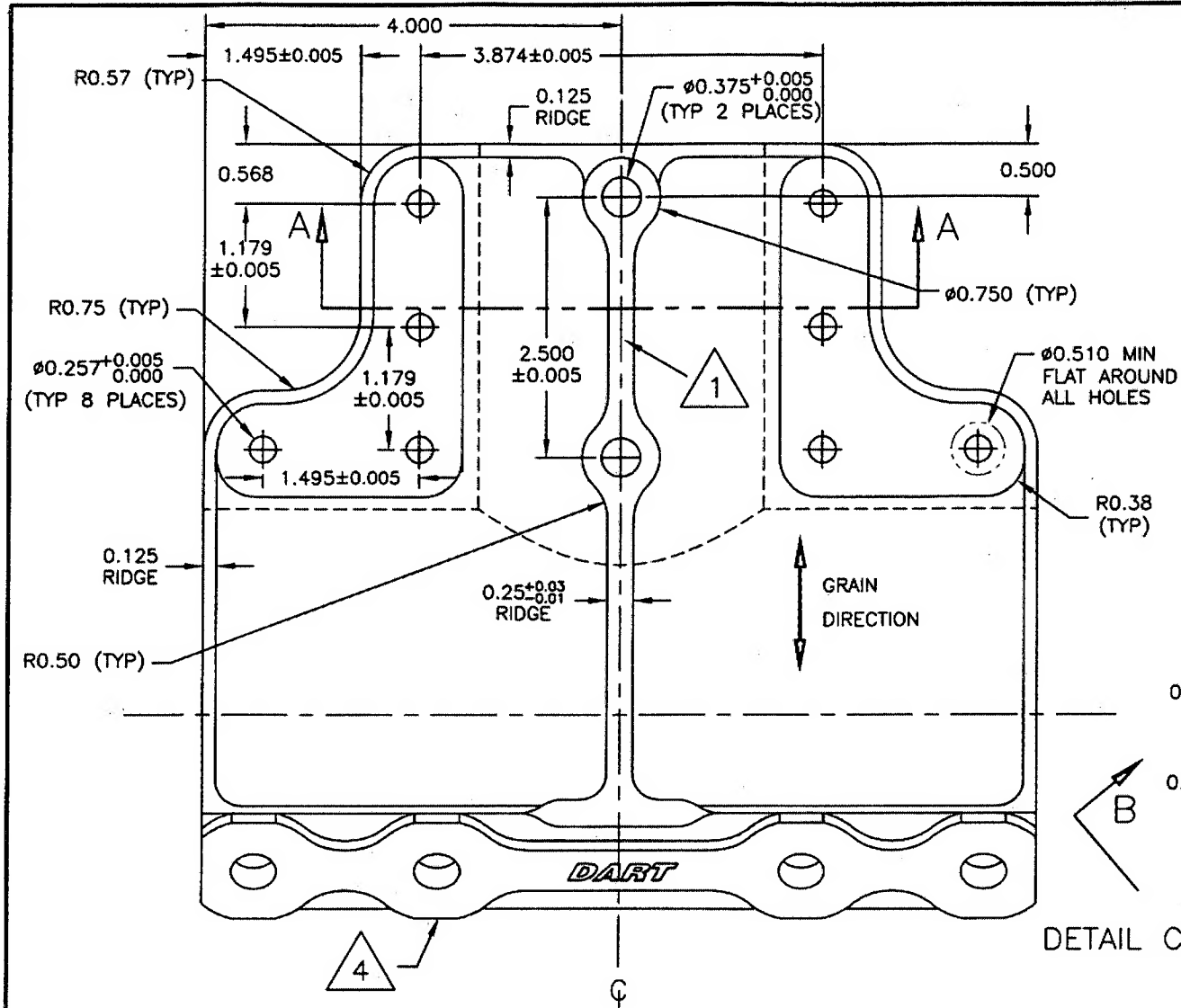
05.12.06

NOTES

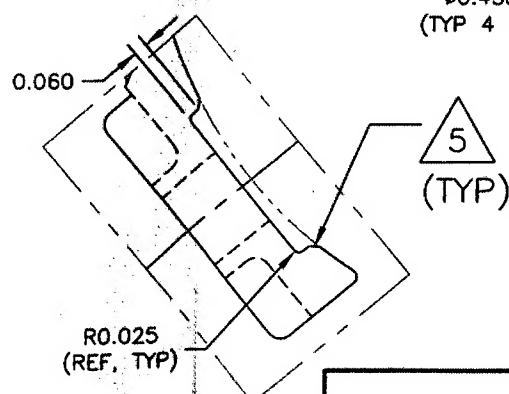
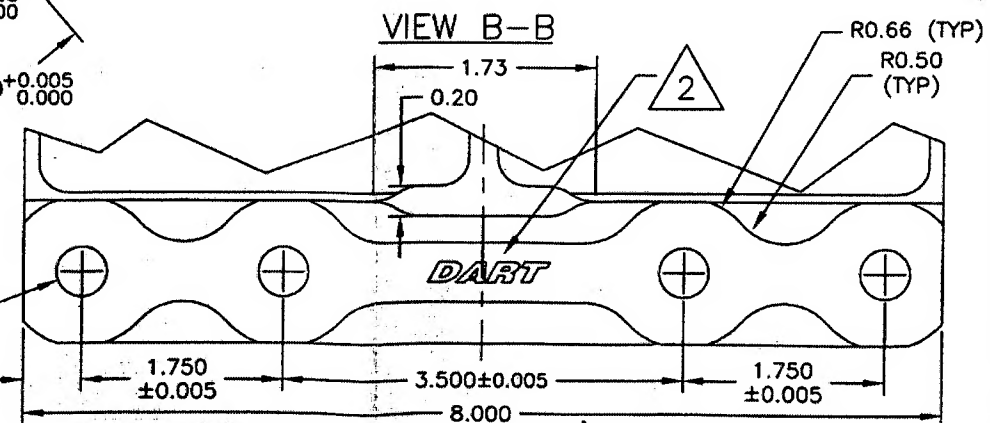
MATERIAL: 7075-T7351 (QQ-A-250/12) (REF DART SPEC. D6102-001)
 FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1
 POWDER COAT GLOSS WHITE (REF 4.3.5.1) PER DART QSI 005 4.3
 BREAK ALL SHARP EDGES 0.010 TO 0.020
 TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

- 1 ENGRAVE PART AND BATCH NUMBER IN THIS AREA TO MAX DEPTH OF 0.010
- 2 ENGRAVE DART LOGO TO MAX DEPTH OF 0.015 WITH MIN RAD 0.125
- 3 CHAMFER 0.063" x 45° AROUND THIS SURFACE (TYPICAL 2 PLACES)
- 4 CHAMFER 0.063" x 45° ALL AROUND
- 5 CHAMFER 0.033" x 45° (SEE DETAIL C)

E



SECTION A-A



DETAIL C
SCALE 4:3

E	05.07.13	ADD CHAMFER ON RIDGE, NOTE 5
D	02.09.06	ADD RIDGES; TIGHTEN TOLERANCES
C	99.10.22	INCORP. DEO 9123/9079/9102 ADD DIMENSIONS PER TSR A1177
B	96.12.02	ADD GRAIN DIR., 0.438 WAS 0.425
A	96.09.16	NEW ISSUE

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DESIGN	DS	DRAWN BY	PH	DART	DART AEROSPACE LTD. HAWKESBURY, ONTARIO, CANADA
CHECKED	#	APPROVED	#	D2571	SHOP COPY REV. E RETURN TO SHEET 1 OF 1 ENGINEERING
DATE	05.07.13	TITLE	OUTER FWD SADDLE	UNCONTROLLED COPY SUBJECT TO AMENDMENT	WITHOUT NOTICE WORK ORDER NO. 42359

Provencal

From: David Shepherd [dshepherd@dartaero.com]
Sent: October 23, 2008 1:56 PM
To: 'Chris Provencal'
Subject: RE: Emailing: NCR-D2571.jpg

Agree. Parts are acceptable.

David

-----Original Message-----

From: Chris Provencal [mailto:cprovencal@dartaero.com]
Sent: Thursday, October 23, 2008 8:40 AM
To: 'David Shepherd'
Subject: Emailing: NCR-D2571.jpg

David,

D2751 & D2752, both and inner and outer saddle have the top ridge 0.220" (nominal = 0.250") under tolerance, see attached picture. I don't have anything to substantiate this by calculation. However, on the basis that the original saddle did not have this ridge, I would conclude that these saddles are acceptable. Do you concur?

-Chris

No virus found in this incoming message.

Checked by AVG.

Version: 7.5.549 / Virus Database: 270.8.2/1739 - Release Date: 10/22/2008 7:23 AM

No virus found in this outgoing message.

Checked by AVG.

Version: 7.5.549 / Virus Database: 270.8.2 - Release Date: 10/20/2008 12:00 AM